

## REMARKS/ARGUMENT

1) Claims 1-4, 6-14 and 16-20 stand rejected under 35 U.S.C. 102(b) as being anticipated by Toyoda et al. [US 2003/0030155A1]. Applicants respectfully traverse this rejection, as set forth below.

In order that the rejection of Claims 1, 11 and 20 be sustainable, it is fundamental that "each and every element as set forth in the claim be found, either expressly or inherently described, in a single prior art reference." Verdegall Bros. v. Union Oil Co. of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See also, Richardson v. Suzuki Motor Co., 9 USPQ2d 1913, 1920 (Fed. Cir. 1989), where the court states, "The identical invention must be shown in as complete detail as is contained in the ... claim".

Furthermore, "all words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Independent Claim 1 requires and positively recites, an integrated circuit structure, comprising: "one or more **integrated circuit elements** operable to **generate an electromagnetic field** when an electric current is applied to the integrated circuit element;," "an encapsulating compound substantially surrounding the one or more integrated circuit elements", the encapsulating compound comprising: "a packaging material" and "an electromagnetic field-attenuating material operable to attenuate the electromagnetic field **emitted by one or more of the integrated circuit elements**, the electromagnetic field-attenuating material disposed within at least a portion of the packaging material".

Independent Claim 11 requires and positively recites, a method for forming an integrated circuit structure, comprising: "forming one or more **integrated circuit**

**elements operable to generate an electromagnetic field** when an electric current is applied to the integrated circuit element;”, “forming an encapsulating compound substantially surrounding the one or more integrated circuit elements”, the encapsulating compound comprising: “a packaging material” and “an electromagnetic field-attenuating material operable to attenuate the electromagnetic field **emitted by one or more of the integrated circuit elements**, the electromagnetic field-attenuating material disposed within at least a portion of the packaging material”.

Independent Claim 20 requires and positively recites, an electrical device comprising an integrated circuit structure, the integrated circuit structure comprising: “one or more **integrated circuit elements** operable to **generate an electromagnetic field** when an electric current is applied to the integrated circuit element;”, “an encapsulating compound substantially surrounding the one or more integrated circuit elements”, the encapsulating compound comprising: “a packaging material” and “an electromagnetic field-attenuating material operable to attenuate the electromagnetic field **emitted by one or more of the integrated circuit elements**, the electromagnetic field-attenuating material disposed within at least a portion of the packaging material”.

In contrast, Toyoda et al. discloses a compound for **protecting** semiconductor devices from external **electromagnetic fields**. The semiconductor elements (individual devices) are arranged on a substrate (a package). The devices are encapsulated by the curing bodies and are protected from external electromagnetic fields, thereby making them EMC (Electro-Magnetic Compatible) [Abstract, 0056, 0057]. Toyoda teaches the “development of the electronic **devices which ... have durability relative to the electromagnetic waves generated in the circumference ...**” [0006]. His focus is on “an electromagnetic wave shielding

technique” for the semiconductor devices [0008] and the method of encapsulating the devices. Being that Toyoda teaches **protection** of semiconductor devices “from the external part and the electromagnetic waves”, it fails to teach or suggest that an ... “**encapsulating compound comprising an electromagnetic field-attenuating material operable to attenuate the electromagnetic field emitted by one or more of the integrated circuit elements...**”, as required by Claims 1, 11 and 20. Accordingly, the 35 U.S.C. 102(b) rejections of Claims 1, 11 and 20 are overcome.

Claims 2-4, 6-10, 12-14 and 16-19 stand allowable as depending from allowable claims and including further limitation not taught or suggested by the references of record.

Regarding Claims 2 and 12, Toyoda shows a Figure 1 depicting a “schematic sectional view showing one embodiment of a semiconductor device using a resin component”. [0017 and 0050]. Being that Toyoda presents a schematic figure without discussion of the elements of said figure, it fails to teach or suggest “... **a conductive connector coupling portions of the integrated circuit structure**” as required by Claims 2 and 12. Accordingly, the 35 U.S.C. 102(b) rejections of Claims 2 and 12 are overcome.

Regarding Claims 3 and 13, Toyoda shows a Figure 1 depicting a “schematic sectional view showing one embodiment of a semiconductor device using a resin component”. [0017 and 0050]. Presumably, the bond wire couples signals from the semiconductor device **bond pads to the package external pins**. Being that Toyoda presents a schematic figure containing a resin and bond wires without discussion of the elements of said figure, it fails to teach or suggest that the ... “**conductive connector comprises a bond wire**” as required by Claims 3

and 13 which depend upon Claims 2 and 12, respectively. Accordingly, the 35 U.S.C. 102(b) rejections of Claims 3 and 13 are overcome.

Regarding Claims 4 and 14, Toyoda shows a Figure 1 depicting a “schematic sectional view showing one embodiment of a semiconductor device using a resin component”. [0017 and 0050]. Being that Toyoda presents a schematic figure containing a resin and bond wires without discussion of the elements of said figure, it fails to teach or suggest that the ... **“encapsulating compound”** is **“operable to attenuate electromagnetic coupling of the conductive connectors”** as required by Claims 4 and 14. Accordingly, the 35 U.S.C. 102(b) rejections of Claims 4 and 14 are overcome.

Respondents respectfully disagree with the Examiner with regard to his analysis of Toyoda regarding Claims 6 and 16. Dependant Claims 6 and 16 require and positively recite that “the electromagnetic field-attenuating material is operable to attenuate an electromagnetic field emitted outside the structure by the one or more integrated circuit elements.”

In contrast, Toyoda et al. discloses a method to **protect** the semiconductor devices **10** and **20** **“from the external part and the electromagnetic waves are shielded** by ferrite power included in the curing bodies **16** and **24**,” Being that Toyoda teaches **protection** of semiconductor devices “from the external part and the electromagnetic waves”, it fails to teach or suggest that the encapsulating compound ... “attenuate an electromagnetic field **emitted outside the structure** by **the one or more integrated circuit elements**”, as required by Claims 6, and 16. Accordingly, the 35 U.S.C. 102(b) rejections of Claims 6, and 16 are overcome.

2) Dependant Claims 5 and 15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda et al. [US 2003/0030155A1] in view of Freyman et al. [U.S. Pat. 5,646,451]. Applicants respectfully traverse this rejection as follows:

Claims 5 and 15 further define the structures of Claims 1 and 11, respectively, wherein the two integrated circuit elements comprise traces “operable to carry an electrical signal within the structure”, and the **“electromagnetic field–attenuating material of the encapsulating compound is operable to attenuate electromagnetic coupling of the first trace and the second trace.”**

In contrast, Toyoda et al. discloses a compound for **protecting** semiconductor devices from **external electromagnetic fields**. The semiconductor elements (individual devices) are arranged on a substrate (a package). The devices are encapsulated by the curing bodies and are protected from external electromagnetic fields, thereby making them EMC (Electro-Magnetic Compatible) [abstract, 0056, 0057]. Being that Toyoda teaches protection of semiconductor devices “from the external part and the electromagnetic waves”, it fails to teach or suggest that an ... **“encapsulating compound comprising an electromagnetic field-attenuating material operable to attenuate the electromagnetic field emitted by one or more of the integrated circuit elements...”**, as required by Claims 1 and 11, respectively.

Even if, arguendo, Freyman et al. teaches what is suggested by the Examiner on page 4, line 21 – page 5, line 9 of the Office Action dated December 5, 2006, Freyman fails to teach or suggest **“an encapsulating compound comprising an electromagnetic field-attenuating material operable to attenuate the electromagnetic field emitted by one or more of the integrated circuit elements...”** as required by Claims 1 and 11, respectively.

Claim 5 depends on Claim 1 and is therefore allowable for the reasons given above for the allowance of Claim 1. The 35 U.S.C. 103(a) rejection of Claim 5 is overcome.

Claim 15 depends upon Claim 11 and is therefore allowable for the reasons given above for the allowance of Claim 11. The 35 U.S.C. 103(a) rejection of Claim 15 is overcome.

In proceedings before the Patent and Trademark Office, "the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art". In re Fritch, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (citing In re Piasecki, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984). "The Examiner can satisfy this burden **only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references**", In re Fritch, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992)(citing In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988)(citing In re Lalu, 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1988)).

Although couched in terms of combining teachings found in the prior art, the same inquiry must be carried out in the context of a purported obvious "modification" of the prior art. **The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification.** In re Gordon, 733 F.2d at 902, 221 USPQ at 1127. Moreover, **it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious.** In re Gorman, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed.Cir.1991). See also Interconnect Planning Corp. v. Feil, 774

F.2d 1132, 1138, 227 USPQ 543, 547 (Fed.Cir.1985).

Furthermore, "all words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). It is clear from the above analysis that all the words of Claims 5 and 15 cannot be found in a combination of the Toyoda and Freyman references, as is required by law. As such, the 35 U.S.C. 103(a) rejection of Claims 5 and 15 must be withdrawn.

Accordingly, Claims 1-20 stand allowable. Applicants respectfully request withdrawal of the rejections and allowance of the application at the earliest possible date.

Respectfully submitted,



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